

## **Pitch angle distribution of MeV electrons in the magnetosphere of Jupiter**

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The magnetosphere of Jupiter harbors the most extreme fluxes of MeV electrons in the solar system and therefore provides a testbed of choice to understand the origin, transport, acceleration, and loss of energetic electrons in planetary magnetospheres. Along this objective, the Pitch Angle Distribution (PAD) of energetic electrons may reveal signatures of the dominant physical processes. Here, we analyze for the first time the PAD of MeV electrons observed by the Galileo-Energetic Particle Detector experiment in orbit around Jupiter from 1995 to 2003. Our first finding is that MeV electron PADs observed by the EPD telescopes, with large angular apertures, appear relatively isotropic with a flux anisotropy lower than a factor of 3. The fine anisotropy observed by Galileo-EPD reveals persistent pancake distributions at the L-shell of L=9. At L=15, L=19, and L=26-60, pancake, isotropic, and scattered beam field-aligned distributions have been observed. The scattered beam distributions can either be evidence of outward adiabatic transport or may suggest that high-latitude auroral acceleration can transiently supply as much trapped MeV electrons to the middle magnetosphere as the inward adiabatic transport of electrons from an outer equatorial reservoir.